

50E

KATHMANDU UNIVERSITY
End Semester Examination
March/April, 2025

Marks Scored:

Level : B.Arch.
Year : II

Course : CIEG 232
Semester : I

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date :

13 APR 2025

SECTION "A"

[20Q. × 0.5 = 10 marks]

Choose and **encircle** the most appropriate answer.

1. The main principle of surveying is to work from
 - a. the centre to the boundary
 - b. the whole to part
 - c. the part to whole
 - d. well-conditioned triangle
2. Survey which depict the natural features of a country are known as
 - a. Cadastral Survey
 - b. Topographical Survey
 - c. Engineering Survey
 - d. Military Survey
3. How close the measured value of quantity corresponds to its actual value is refers by
 - a. Precision
 - b. Accuracy
 - c. Error
 - d. Mistakes
4. The preliminary inspection of the area to be surveyed is known as
 - a. Primary Survey
 - b. Field Survey
 - c. Route Survey
 - d. Reconnaissance Survey
5. In a prismatic compass zero is marked in
 - a. East End
 - b. West End
 - c. North End
 - d. South End
6. In a closed traverse of n no. of sides, the algebraic sum of the interior angle is
 - a. 0°
 - b. $(2n-4) \times 90^\circ$
 - c. $(2n+4) \times 90^\circ$
 - d. 360°
7. The principle of plane table survey is
 - a. Triangulation
 - b. Parallelism
 - c. Traversing
 - d. whole to part
8. The working edge of alidade is known as the
 - a. Fiducial Edge
 - b. Bevelled Edge
 - c. Parallel Edge
 - d. Sharp Edge
9. The operation of leveling to determine the elevation between two points is known as
 - a. Fly Leveling
 - b. Differential Leveling
 - c. Simple Leveling
 - d. Profile Levelling
10. The BM fixed at the end of a day's work is called the
 - a. Permanent BM
 - b. Arbitrary BM
 - c. Temporary BM
 - d. Fixed BM

11. The operation of levelling across any river is termed as
 - a. Profile Leveling
 - b. Cross Leveling
 - c. Simple Leveling
 - d. Reciprocal Leveling

12. The diaphragm is fitted
 - a. At the centre of the telescope
 - b. Infront of object glass
 - c. Infront of the eyepiece
 - d. Foot screw

13. The latitude of traverse leg is obtained by multiplying its length by
 - a. Tangent of its reduced bearing
 - b. Sine of its reduced bearing
 - c. Cosine of its reduced bearing
 - d. Cosecant of its reduced bearing

14. The most reliable method of plotting a theodolite traverse, is
 - a. by consecutive co-ordinates of each station
 - b. by independent co-ordinates of each station
 - c. by plotting included angles and scaling off each traverse leg
 - d. by the tangent method of plotting

15. Balancing of traverse is done according to
 - a. Transit Rule
 - b. Prismoidal Rule
 - c. Reiteration Method
 - d. Repetition Method

16. Theodolite in which telescope can be revolved through a complete revolution in a vertical plane is known as
 - a. Transit Theodolite
 - b. Tilting Theodolite
 - c. Non-transit Theodolite
 - d. Non-tilting Theodolite

17. Topographic map is used to represent the
 - a. artificial detail
 - b. natural detail
 - c. construction detail
 - d. geological detail

18. For ranging a line, the number of ranging rods required is
 - a. 1
 - b. 2
 - c. 3
 - d. 4

19. A compass box is made up of
 - a. Brass
 - b. Copper
 - c. Iron
 - d. Aluminium

20. The curvature of the earth is ignored in
 - a. Geodetic Survey
 - b. Plane Surveying
 - c. Hydrographic Surveying
 - d. Aeronautical Surveying

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13 ~~15~~ APR 2025

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SECTION "B"

Attempt *ALL* questions. Assume suitable data whenever necessary.

1. What do you mean by surveying? Write the difference between geodetic surveying and plane surveying? [5]
2. Explain the different corrections considered in linear distance measurements. [5]
3. What is principle of chain surveying? Describe the different types of offsets. [2+2]
4. Differentiate between the prismatic and surveyor's compass. The following are bearings taken on a closed compass traverse

Line	F. B.	B.B.
AB	80° 10'	259° 0'
BC	120° 20'	301° 50'
CD	170° 50'	350° 50'
DE	230° 10'	49° 30'
EA	310° 20'	130° 15'

Compute the interior angles and correct them for observational errors. Assuming the observed bearing of the line CD to be correct adjust the bearing of the remaining sides.

[2+5]

5. What are the temporary adjustment made on every setting of instrument of level? Describe the process of levelling with three screw head. [3+2]
6. What are the different methods of plane table surveying? Write the advantage and disadvantages of plane table surveying. [2+2]
7. Describe the field procedure for traversing with theodolite. [5]
8. Calculate the consecutive co-ordinates of the following traverse legs whose reduced bearings are shown against each. [5]

Line	Length (meters)	Reduced bearings
AB	305	N 30° 30' E
BC	550	S 42° 42' E
CD	830	S 48° 48' W
DE	630	N 60° 0' W

